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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/551,788	05/16/2006	Richard Wilhelm Janse Van Rensburg	66347-132	3488
68804	7590	01/07/2009	EXAMINER	
JOHN P. DE LUCA 17420 RYEFIELD CT. DICKERSON, MD 20842			GREENE, JASON M	
			ART UNIT	PAPER NUMBER
			1797	
			MAIL DATE	DELIVERY MODE
			01/07/2009	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary****Application No.**

10/551,788

**Applicant(s)**

JANSE VAN RENSBURG ET AL.

**Examiner**

Jason M. Greene

**Art Unit**

1797

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-11 is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 October 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SE/US)  
Paper No(s)/Mail Date 10/3/05
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to under 37 CFR 1.84(u)(2) because the view numbers (e.g. Fig. 1) are not larger than the numbers used as reference characters. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Allowable Subject Matter***

2. Claims 1-11 are allowed.
3. The following is a statement of reasons for the indication of allowable subject matter:

Tani et al. (US 6,164,933) teaches a gas flow generator comprising first and second membranes (20E) mounted in parallel with one another, wherein each membrane is formed of a piezoelectric material such that each membrane serves as a driver when bent by actuation by electrodes (21,22), thereby causing gas flow in Figs. 18 and 19 and col. 4, line 26 to col. 9, line 15.

While Tani et al. does not teach the transducer being separate from the membrane and/or substrate, one of ordinary skill in the art at the time the invention was made would have recognized that the parts could be formed as separable components in that such is merely a design choice. See *Howard v. Detroit Stove Works*, 150 U.S. 164 and *Nervin v. Erlichman*, 168 USPQ 177,179. However, Tani et al. does not teach the driver being ultrasonic or one of the membrane being perforated to allow gas flow therethrough.

Deak (US 5,525,041) teaches a gas flow generator comprising an ultrasonic driver comprising a piezoelectric transducer (8) mounted on a substrate (10), operation of the transducer being arranged to cause the driver to bend, a first membrane formed

integrally with the substrate, whereby ultrasonic bending of the driver by actuation of the transducer causes a gas flow in Figs. 1-3 and col. 9, line 30 to col. 13, line 42.

However Deak does not teach a second membrane being mounted substantially parallel with the driver and spaced a given distance therefrom, or one of the membranes being perforated such that gas can flow therethrough.

Fong (US 7,048,519 B2) teaches a pump which is capable of operating as a gas flow generator comprising a driver comprising a piezoelectric transducer (110) mounted on a substrate (108), operation of the transducer being arranged to cause the driver to bend, a first membrane (108) formed integrally with the substrate, and a second membrane (116) mounted substantially parallel with the driver and spaced a given distance therefrom, the second membrane being permeable, whereby bending of the of the driver on actuation of the transducer causes a gas flow through the permeable membrane.

Fong however has a filing date that is later than the effective date of the instant application. Fong also fails to teach the second membrane being perforated since perforated membranes are distinct from permeable membranes, as well as the driver being ultrasonic.

The prior art made of record does not teach or fairly suggest the gas flow generator of claim 1 comprising a second membrane mounted substantially parallel to the driver and a given distance therefrom, wherein one of the membranes is perforated, whereby ultrasonic bending of the driver on actuation of the transducer causes gas to flow through the perforate membrane.

### ***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Blakey, Weinberg, Humberstone et al. and Takeuchi et al. reference disclose similar gas flow generators.

5. This application is in condition for allowance except for the above noted informalities regarding the drawings.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 25 USPQ 74, 453 O.G. 213, (Comm'r Pat. 1935).

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M. Greene whose telephone number is (571) 272-1157. The examiner can normally be reached on Monday - Friday (9:00 AM to 5:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jason M. Greene  
Primary Examiner  
Art Unit 1797

/Jason M. Greene/  
1/4/09

jmg  
January 4, 2009